

## INTEGRATED PREPARATION OF BLENDING COMPONENTS FOR REFINERY TRANSPORTATION FUELS

### ABSTRACT OF THE INVENTION

5        Economical processes are disclosed for production of  
components for refinery blending of transportation fuels which are  
liquid at ambient conditions by selective oxygenation of refinery  
feedstocks comprising a mixture of organic compounds. The organic  
compounds are oxygenated with dioxygen in a liquid reaction  
10 medium containing a soluble catalyst system comprising at least  
one multi-valent and/or heavy metal while maintaining the liquid  
reaction medium substantially free of halogen and/or halogen-  
containing compounds, to form a mixture of immiscible phases  
comprising hydrocarbons, oxygenated organic compounds, water of  
15 reaction, and acidic co-products. The mixture of immiscible phases  
is separated by gravity to recover at least a first organic liquid of  
low density and second liquid of high density which contains at  
least a portions of the catalyst metal, water of reaction and acidic  
co-products. Advantageously, the organic liquid is washed with an  
20 aqueous solution of sodium bicarbonate solution, or other soluble  
chemical base capable to neutralize and/or remove acidic co-  
products of oxidation, and recover oxygenated product.

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